EPA New England

Financing Infrastucture

Water & Wastewater Treatment Facilities

U.S. Environmental Protection Agency

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Saving for the Future

Over the past twenty-five years, EPA, the states, and municipalities have spent billions of dollars to construct water and wastewater treatment facilities across the nation. This program has been extremely successful in improving the quality of drinking water, and the quality of our lakes, rivers and streams. However, water and wastewater treatment facilities constructed in the 1970's and early 1980's are at or near the end of their design life and will soon need replacement.

How can a community protect its million dollar water and/or wastewater investment and continue to provide its citizens with clean, safe water and reliable sewer service? By good financial management. Good financial management allows a community to acquire necessary revenues to maintain self-sufficient water and wastewater operations. It also includes establishing a reserve fund for the eventual repair and upgrade at a facility.

Is your community prepared?

EPA's review of community budgets in New England show that many water and wastewater treatment facilities are financially well managed and have adequate funds set-aside funds for infrastructure repair/capital replacement. However, numerous other facilities that face costly upgrades or replacement do not have adequate reserves for infrastructure replacement.

Saving vs Borrowing

When a major equipment repair or replacement

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Get More Energy from Your Buck

If you plan to undertake infrastructure improvement projects at your facility, get more bang for your buck by incorporating energy efficiency upgrades at the same time.

Since your facility was first constructed, technology has made advances in many areas. In the 1970s when energy was cheap and thought to be inexhaustible, conservation and efficiency were not the focus of most treatment facilities. Today, we see energy efficiency as a way to save money, energy and the environment. If you are undertaking equipment replacement, compare energy efficient models to standard models. You will probably find the savings from an energy efficient model pays for the higher initial cost rather quickly, allowing the savings to accumulate. If you have a larger retrofit project planned, it will almost certainly be advantageous to have an energy audit performed to adjust the original treatment plant's design concepts to the actual operation today.

Resources

There are many resources available to assist you with these decisions. The state environmental agency provides technical assistance and administers the state revolving loan program. The state energy office provides technical assistance, case studies and may administer a grant or loan program. Many power utility companies provide technical assistance and may have grant or rebate programs for eligible energy conservation projects. There are also many energy service companies and engineering firms available for auditing your facility and establishing an energy savings program.

Funding

In addition to tapping into the municipal budget, there are various sources of financing for energy efficient projects.

- ***State energy loan programs***

Low or no-interest . Check to find out if your state offers this program.

- ***Utility incentive programs***

Most utilities offer a range of incentives and rebates for the installation of energy saving equipment. Generally, the higher the energy efficiency rating, the greater the rebate energy credit.

- ***Grants***

Federal and state government agencies, such as the Dept. of Energy and the U.S. Dept. of Agriculture, make financing available for various types of energy and non-energy projects.

- ***Bonds***

If a particular project is large and can justify the added expense of entry into the bond market, bonds

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Saving for the Future

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catches a municipality unexpectedly the result is always more costly. The following example compares the cost of borrowing for an emergency equipment replacement today versus having saved for the failure over the last ten years. Emergency equipment repairs or replacements may not have the benefit of low interest rates offered by the state revolving loan fund due to time constraints and would be subject to much higher market rates.

Example

A pump at the wastewater treatment plant failed and needs to be replaced.

Cost of repair = $ 153,220
Interest on savings = 4%
Interest on borrowing = 6%
Time = 10 years

Saving:

Annual Amount = Cost x Sinking Fund Factor
Annual Amount = $153,220 x 0.07587
Annual Amount = $ 11,625

Borrowing:

Annual Amount = Cost x Capital Recovery Factor
Annual Amount = $153,220 x 0.149
Annual Amount = $ 22,830

The Solution

To ensure that a community is financially prepared when expensive equipment at water and wastewater treatment facilities needs to be replaced, EPA strongly encourages establishing a replacement fund. The replacement fund will help you prevent cash flow problems, eliminate the added expenses of emergency borrowing, and reduce long term borrowing requirements.

Infrastructure Resources

Your state municipal association or state environmental agency will be able to help you establish a reserve fund, or you may contact EPA New England at (617) 918-1844.

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for energy-efficiency projects can be issued and marketed. However, you must evaluate whether the issuance of bonds for an energy project will limit the use of a particular bonding authority for other types of even higher priority projects.

■ *Leasing equipment*

In certain cases, leasing from a private company or bank may allow a public entity to access the benefits of an energy program that is restricted to the private sector.

■ *Performance Contracting*

Many energy serivce companies (ESCOs) will develop and implement an energy improvement program for you and take their fee from a portion of the savings.

Many businesses in New England have benefitted from improved technology in motors, pumps and lighting. Municipalities can also benefit from improved energy management and help the environment.

More Information

Rebuild America web site
http://www.eren.doe.gov/buildings/rebuild

Motor Challenge web site
http://www.motor.doe.gov

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